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EXAMINER

DEMICO, MATTHEW R

ART UNIT	PAPER NUMBER
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2611

DATE MAILED: 11/17/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/617,036

Applicant(s)

PAIK ET AL.

Examiner

Matthew R Demicco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is responsive to a Request for Continued Examination, filed 6/25/04. Claims 1-39 are pending. Claims 1, 11, 15, 19, 23, 26, 29 and 32-35 are amended.

Response to Arguments

2. Applicant's arguments filed with respect to Claims 1, 11, 15, 19, 23, 26, 29 and 32 have been fully considered but they are not persuasive.

Applicant argues that the combination of Tracton in view of Cerna is not obvious because Tracton does not teach varying the rate or transmission bandwidth and that Cerna only teaches varying the rate of voice bandwidth, which is not equivalent to the rate of the video signal. Further Applicant argues that Tracton cannot be combined with Cerna because Tracton teaches web browsing and Cerna teaches a cellular system.

Tracton teaches scaling source content according to client capabilities and network speed (Col. 5, Lines 58-61). The content is video content (Col. 4, Lines 33-49) at different bit-rates. The content is delivered to a cellular-phone based browser (Col. 7, Lines 25-27). Tracton clearly teaches varying the rate and transmission bandwidth of video in a cellular phone system.

Cerna teaches a telecommunication system that uses flow control to dynamically adjust the bandwidth being used by adjusting quality of voice data (Col. 7, Lines 62-67) in order to prevent a condition where insufficient bandwidth is available resulting in lost data (Col. 7, Lines 45-49). Further, Cerna discloses data compression and transmission of

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fax and computer data as well (Col. 5, Lines 16-20). This packetized and compressed computer data could be packetized and compressed video data as is well known in the art.

The Examiner contends that the computer data and packetized voice data of Cerna are merely bits transported over a network. Cerna clearly teaches adjusting the bandwidth utilization of the network by adjusting the rate at which these data bits are transmitted. Tracton similarly teaches transmission of digital data over a network and a method of adjusting the rate and bandwidth of the digital data. Since both are teaching methods of transporting scaled data over digital networks, the art is analogous and combination based on obviousness is proper.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9, 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,470,378 to Tracton et al. in view of U.S. Patent No. 5,444,707 to Cerna et al. and further in view of U.S. Patent No. 6,263,503 to Margulis.

Regarding Claim 1, Tracton discloses a broadcasting service system (See Figure 4) using a mobile communication terminal (Col. 7, Lines 26-28) comprising a converting unit (Cols. 7-8, Lines 62-5) for converting video and audio signals (Col. 4, Lines 33-35) provided from a moving picture information into a format compatible with a signal and transmission standard of a mobile

communication network (Col. 5, Lines 58-62). Further disclosed is a transmitting unit (See Figure 9, 420), which transmits the converted video and audio signals to a subscriber terminal (442) through a certain transmission channel of the mobile communication network (444). Tracton also discloses supporting cellular-phone based devices (Col. 7, Line 27). This reads on the claimed mobile communication subscriber terminal. Tracton discloses a server capable of scaling source content according to network speed (Col. 5, Lines 58-62). This reads on the claimed controlling unit for varying an encoding rate (scaling source content) of the video signals. Varying the encoding rate directly corresponds to varying the transmission bandwidth as is well understood in the art. Further, as is well known in the art, a finite bandwidth transmission channel such as a mobile telephone network has a limited capacity, and subsequently a limited number of users may use the network at a given time.

What is not disclosed, however, is varying an encoding rate and transmission bandwidth in accordance with telephone call quantity information. Cerna discloses a multi-channel telephone system for transmitting voice and data packets (See Abstract). Cerna further discloses the use of flow control to dynamically vary the bandwidth of packets based on traffic levels (See Abstract and Cols. 7-8, Lines 45-2). The traffic levels read on the claimed call quantity information. Cerna is evidence that ordinary workers in the art would recognize the benefits of using telephone call quantity information to vary transmission bandwidth in a packet switching telephone network. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was

made to modify the invention of Tracton with the telephone call quantity information of Cerna in order to maximize the number of connections the network can support to minimize cost.

What Tracton in view of Cerna do not disclosed, however, is a television receiver for use in converting information from a TV broadcast station and EPG data is formatted and multiplexed together and transmitted with the converted video and audio signals an additional information on the same data stream. Margulis discloses a wireless television system (See Figure 1) that accepts a variety of inputs including analog audio/video (122 and 128) including a cable TV signal that is received by a cable decoder (Col. 4, Lines 22-29). The input is then processed into a format that is compatible with the wireless client (Col. 7, Lines 36-44). The analog data is further digitized during this process (Col. 7, Lines 54-56). This reads on the claimed television receiver for converting video and audio signals provided from a TV broadcast station. EPG data is embedded in the television broadcast (Col. 4, Lines 44-55). This reads on the claimed formatting and multiplexing/transmission of EPG data with the converted video and audio signals and additional information on the same data stream. Margulis is evidence that ordinary workers in the art would appreciate the benefit of broadcasting TV data combined with EPG data to a portable display device. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tracton in view of Cerna with the television source and EPG data of Margulis in order to allow a user easy access to a wide variety of programming when a regular television is not accessible.

Regarding Claim 2, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 1. Tracton further discloses a system wherein the video and audio signals are compatible with both a first signal standard for a television broadcasting and a second signal standard (Col. 4, Lines 33-49), the first and second standard being compatible with another signal standard capable of converting between different systems (Col. 7, Lines 51-65).

Regarding Claim 3, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 2. Tracton further discloses a system wherein the first signal standard agrees with MPEG2 and the second standard agrees with MPEG4 (Col. 4, Lines 33-49).

Regarding Claim 4, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 1. Tracton further discloses a system wherein the converting (Col. 5, Lines 58-62) unit includes a coding unit which codes the digital video and audio data signals to be compatible with a digital television broadcasting system as stated above and formats the coded digital signals to be compatible with the mobile communication network (Col. 6, Lines 3-7).

Regarding Claim 5, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 1 including a coding unit that formats and codes a signal having a video and audio signal. Margulis discloses a wireless television system (See Figure 1) that accepts a variety of inputs including analog audio/video (122 and 128). The input is then processed into a format that

is compatible with the wireless client (Col. 7, Lines 36-44). The analog data is further digitized during this process (Col. 7, Lines 54-56).

Regarding Claims 6 and 7, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 1. Tracton further discloses that the transmitting unit includes an outputting unit that outputs the formatted A/V signals on the transmission channel as stated above in Claim 9. Margulis discloses a wireless television system as stated above wherein additional broadcasting information is put on the transmission channel with the A/V data (Col. 4, Lines 44-55) including program guide information. Margulis is evidence that ordinary workers in the art would recognize the benefits of supporting various types of supplemental data transmissions in a wireless television system. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the system of Tracton in view of Cerna with the additional data of Margulis in order to provide additional information, such as an electronic program guide, to the user.

Regarding Claim 8, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 1. Tracton further discloses a system wherein the transmitting and converting units transmit data through a connected transmission channel (444) between the mobile communication subscriber terminal (442) and a base station (402).

Regarding Claim 9, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 1. Tracton further discloses a system wherein the converting and transmitting units transmit the video and audio

signals through the communication network (444). It is inherent that at least one transmission channel be allotted for transmission of data, be it a physical channel (e.g. range of RF bandwidth) or a virtual channel on a digital transmission medium (e.g. TCP/IP port).

Regarding Claim 36, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 1. Tracton further discloses that the mobile communication terminal may be a cellular phone (Col. 7, Line 27). Traction also discloses that the video signals may be, for instances, a news broadcast (Col. 7, Lines 46-48). A news broadcast, as is well known in the art, could be a television broadcast. Margulis further discloses that the video signals are television broadcast signals as stated above in Claim 1.

Regarding Claim 38, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 1. Cerna further discloses a system wherein the controlling unit varies the encoding rate of the video signals in accordance with the telephone quantity information so that the video signals do not take all the available bandwidth as stated above in Claim 1. The encoding happens at a server, which reads on the claimed base station.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tracton et al. in view of Cerna et al. and further in view of Margulis and still further in view of U.S. Patent No. 6,246,430 to Peters et al.

Regarding Claim 10, Tracton in view of Cerna and further in view of Margulis disclose a system as stated above in Claim 1. What is not disclosed

however is the inclusion of an identifying unit that identifies an individual mobile communication subscriber from among all subscribers of the video and audio signal and a payment-demanding unit that demands a payment corresponding to a reception of the A/V signals for the identified individuals. Peters discloses a video telephone system (See Figure 2) with a video server (Col. 2, Lines 32-34). The users of the video telephone must insert a chip-card into the video telephone, thereby identifying themselves to the device (Col. 4, Lines 1-12). A subsequent charge is issued for the purchase (Col. 4, Line 14-16). Peters is evidence that ordinary workers in the art would appreciate the ability to identify an individual subscriber and charge for services in a video telephone system. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tracton in view of Cerna and further in view of Margulis with the identification and charging of Peters in order to implement pay-per-view type services on a wireless video transmission system.

6. Claims 11-14 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tracton et al. in view of Cerna et al. and further in view of Margulis and still further in view of U.S. Patent No. 6,005,565 to Legall et al.

Regarding Claim 11, Tracton discloses a mobile communication terminal (Col. 7, Lines 26-28) comprising a digital video and audio reception unit (See Figure 4, 112), a decoder (106), which decodes the digital data received from a mobile communication network, and an outputting unit which outputs the decoded signal (Col. 9, Lines 6-20) as stated above in Claim 1. Further, Tracton in

view of Cerna disclose that the mobile communication terminal receives and decodes the video signal at a rate which varies in accordance with a voice telephone call quantity information and a variable transmission rate of a mobile communication network as stated above in Claim 1.

What Tracton in view of Cerna do not disclosed, however, is a television receiver for use in converting information from a TV broadcast station and EPG data is multiplexed with the digital video and the mobile terminal includes a receiving-decoding unit which receives and decodes the EPG signal from the video signal. Margulis discloses a wireless television system (See Figure 1) that accepts a variety of inputs including analog audio/video (122 and 128) including a cable TV signal that is received by a cable decoder (Col. 4, Lines 22-29). The input is then processed into a format that is compatible with the wireless client (Col. 7, Lines 36-44). The analog data is further digitized during this process (Col. 7, Lines 54-56). This reads on the claimed television receiver for converting video and audio signals provided from a TV broadcast station. EPG data is embedded in the television broadcast (Col. 4, Lines 44-55). It is inherent that the client be able to receive and decode the EPG signal in order to display it to the user. Margulis is evidence that ordinary workers in the art would appreciate the benefit of broadcasting TV data combined with EPG data to a portable display device. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tracton in view of Cerna with the television source and EPG data of Margulis in order to allow a

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user easy access to a wide variety of programming when a regular television is not accessible.

What Tracton in view of Cerna and further in view of Margulis do not disclose, however, is a transmitting unit which transmits a subscriber search answer of the decoded EPG signal to a broadcast service system. Legall discloses an EPG system (See Figure 2) where a user is able to search the EPG and other sources of information (Col. 2, Lines 60-66) by issuing a search request to a search engine, which interacts with external information resources such as the Internet or broadcasts (Col. 3, Lines 11-16). Further the system is operable to "offload" the handling of a search to the content provider so the receiving user's system does not have to perform the search (Col. 5, Lines 44-46). This reads on the claimed transmitting unit which transmits a subscriber search answer of the decoded EPG signal to a broadcast service system. Legall is evidence that ordinary workers in the art would appreciate the ability to search an EPG. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tracton in view of Cerna and further in view of Margulis with the EPG searching of Legall in order to allow a user to quickly locate information of interest.

Regarding Claim 12, Tracton in view of Cerna, further in view of Margulis and still further in view of Legall disclose a system as stated above in Claim 11. Tracton in view of Cerna and further in view of Margulis disclose a system wherein additional data, including electronic program guide data is transmitted along with the A/V data to the client as stated above in Claim 7. It is

inherent that the mobile communication terminal includes a receiving-decoding means for receiving and decoding the EPG signal.

Regarding Claim 13, Tracton in view of Cerna, further in view of Margulis and still further in view of Legall disclose a system as stated above in Claim 11. Tracton further discloses a system wherein the mobile communication terminal is a cellular phone (Col. 7, Line 27).

Regarding Claim 14, Tracton in view of Cerna, further in view of Margulis and still further in view of Legall disclose a system as stated above in Claim 11. Tracton also discloses the client has a browser (Col. 7, Lines 26-28) and a web server (Col. 5, Lines 16-19). Further, Tracton in view of Cerna and further in view of Margulis disclose a system wherein EPG data is transmitted to the client as stated above. The combination of Tracton in view of Cerna and further in view of Margulis would therefore disclose the utilization of the web server and browser to access the EPG data and additional information.

Regarding Claim 37, Tracton in view of Cerna, further in view of Margulis and still further in view of Legall disclose a system as stated above in Claim 11. Tracton further discloses that the mobile communication terminal may be a cellular phone (Col. 7, Line 27). Tracton also discloses that the video signals may be, for instances, a news broadcast (Col. 7, Lines 46-48). A news broadcast, as is well known in the art, could be a television broadcast. Margulis further discloses that the video signals are television broadcast signals as stated above in Claim 11.

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7. Claims 15-25 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margulis in view of Cerna et al.

Regarding Claim 15, Margulis discloses a broadcasting service system (See Figure 1) using a mobile communication terminal (158) comprising a digital video and audio input unit (122, 128, 134) which receives digital A/V signals broadcast from a provider of the pertinent information, a transcoding unit for converting the digital video and audio signals into a format and transmission rate agreeable to a mobile communication network (Col. 7, Lines 36-64) and a transmitting unit (156) for outputting and transmitting the transcoded-converted digital broadcast signals. It is inherent that at least one transmission channel be allotted for transmission of data, be it a physical channel (e.g. range of RF bandwidth) or a virtual channel on a digital transmission medium (e.g. TCP/IP port). What is not disclosed, however, is varying an encoding rate and transmission bandwidth in accordance with telephone call quantity information. Cerna discloses a multi-channel telephone system for transmitting voice and data packets (See Abstract). Cerna further discloses the use of flow control to dynamically vary the bandwidth of packets based on traffic levels (See Abstract and Cols. 7-8, Lines 45-2). The traffic levels read on the claimed call quantity information. Cerna is evidence that ordinary workers in the art would recognize the benefits of using telephone call quantity information to vary transmission bandwidth in a packet switching telephone network. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Margulis with the telephone call quantity

information of Cerna in order to maximize the number of connections a single trunk line can support and minimize cost.

Regarding Claim 16, Margulis in view of Cerna disclose a system as stated above in Claim 15. Margulis further discloses that the broadcasting service system includes EPG and additional data converting units that convert EPG data and additional information for selecting the digital broadcast channel into a format agreeable to the mobile network (Col. 4, Lines 44-55).

Regarding Claim 17, Margulis in view of Cerna disclose a system as stated above in Claim 16. Margulis further discloses that the broadcasting service system transmits the EPG data and additional information as the agreeable format to the mobile communication network (Col. 4, Lines 51-55).

Regarding Claim 18, Margulis in view of Cerna discloses a system as stated above in Claim 16. The EPG data converting unit inherently includes a decoder which decodes the inputted EPG stream of the digital broadcast signals. Further, it is inherent that there be a restoring unit for retrieving the decoded EPG data in order to broadcast it to the users. In any digital system where data conversion occurs, there is inherently a memory (See Figure 6) that is used to store data to be processed. This reads on the claimed database that stores the information corresponding to the restored EPG data. Further Margulis discloses an EPG outputting means that outputs the EPG information from the data base corresponding to a subscriber request and a converting means that converts the additional information of the digital broadcast into a format agreeable to the mobile communication network (Col. 4, Lines 51-55).

Regarding Claim 19, Margulis discloses a broadcasting service system (See Figure 1) using a mobile communication terminal (158) comprising a DSP unit for receiving a digital broadcast signal and providing a broadcast program to a mobile communication network (Col. 5, Lines 15-19). Further disclosed is a media storage unit (See Figure 6, 646) for storing the broadcast program processed by the digital signal-processing unit (518). Further disclosed is a data processing and converting unit for converting the EPG data and additional information processed by the DSP unit into a signal format compatible with the mobile network as stated above in Claims 15-18. Further disclosed is a transcoder (Cols. 7-8, Lines 36-10 and Col. 8, Lines 44-55) and transmission means (156) for receiving the A/V signals of the broadcast and additional information processed by the DSP means and converting it into a signal format compatible with the mobile network and outputting it. What is not disclosed, however, is varying an encoding rate and transmission bandwidth in accordance with telephone call quantity information. Cerna discloses a multi-channel telephone system for transmitting voice and data packets (See Abstract). Cerna further discloses the use of flow control to dynamically vary the bandwidth of packets based on traffic levels (See Abstract and Cols. 7-8, Lines 45-2). The traffic levels read on the claimed call quantity information. Cerna is evidence that ordinary workers in the art would recognize the benefits of using telephone call quantity information to vary transmission bandwidth in a packet switching telephone network. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Margulis with the telephone call

quantity information of Cerna in order to maximize the number of connections a single trunk line can support and minimize cost.

Regarding Claim 20, Margulis in view of Cerna disclose a system as stated above in Claim 19. Margulis further discloses that the DSP unit includes a tuner (120, 132) for selecting the digital broadcast signal received from the transmission medium such as a television broadcast (128), satellite broadcast (134) and cable broadcast (122). It is inherent that these tuners have a demodulating means (612) for restoring the selected digital broadcast signal. Further disclosed is a demultiplexer (Col. 11, Lines 42-46) for fetching the EPG and additional information from the demodulated signal, and a decoder for decoding the A/V signals (See Figure 5, 538).

Regarding Claim 21, Margulis in view of Cerna disclose a system as stated above in Claim 19. Margulis further discloses that the data processing and converting unit includes an EPG and additional information data decoding unit as stated above in Claim 18. Further, Margulis discloses a signal converter as stated above in Claim 18. It is inherent that the signal conversion means have a protocol converting means for converting the converted EPG data into a protocol compatible with the mobile communication network in order for the client to be able to receive the EPG and additional information data.

Regarding Claim 22, Margulis in view of Cerna disclose a system as stated above in Claim 19. Margulis further discloses that the transcoder and transmission mean include a transcoder (538) for transcoding the digital broadcast A/V signal into a format agreed with the mobile communication network. Further

Margulis discloses a system that reduces the bit rate of the A/V data (Col. 7, Lines 65-67). This reads on the claimed transmission rate control means for controlling the transmission rate agreeable to the mobile network. Further it is inherent that there be a converting mean for converting the output of the data processing and converting means into a data protocol agreeable to the network in order for the clients to be able to receive the data properly. It is further inherent in such a digital system that there be a synchronization processing means for synchronizing information during transcoding and protocol converting such that time-based data be delivered in the appropriate order to the viewers. Further disclosed is a transmitting means (156) for transmitting the data in real time over the network. It is inherent that at least one transmission channel be allotted for transmission of data, be it a physical channel (e.g. range of RF bandwidth) or a virtual channel on a digital transmission medium (e.g. TCP/IP port).

Regarding Claim 23, Margulis discloses a broadcast server method using a mobile communication terminal as stated above. Further disclosed is converting a broadcast signal including digital video and audio data into a format agreed with a signal and transmission standard of the mobile network and transmitting the data to a subscriber through a certain transmission channel of the mobile network as stated above. Margulis further discloses formatting and multiplexing EPG data together with the transmitted video and audio data as stated above in Claim 1. What is not disclosed, however, is varying an encoding rate and transmission bandwidth in accordance with telephone call quantity information. Cerna discloses a multi-channel telephone system for transmitting voice and data

packets (See Abstract). Cerna further discloses the use of flow control to dynamically vary the bandwidth of packets based on traffic levels (See Abstract and Cols. 7-8, Lines 45-2). The traffic levels read on the claimed call quantity information. Cerna is evidence that ordinary workers in the art would recognize the benefits of using telephone call quantity information to vary transmission bandwidth in a packet switching telephone network. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Margulis with the telephone call quantity information of Cerna in order to maximize the number of connections a single trunk line can support and minimize cost.

Regarding Claim 24, Margulis in view of Cerna disclose a method as stated above in Claim 23. Margulis further discloses that the converting process includes the steps of converting A/V data of a digital broadcast into a data format agreeable to the standard and transmission rate of the mobile network as stated above and converting the EPG data and additional information as stated above.

Regarding Claim 25, Margulis in view of Cerna disclose a method as stated above in Claim 23. Margulis further discloses that the transmission process includes the steps of synchronization of the converted digital A/V data, EPG data and additional information as stated above. Further disclosed is converting the data into a protocol agreeable to the mobile communication network and allotting a certain transmission channel and putting the digital data corresponding to the protocol of the network on the channel as stated above.

Regarding Claim 29, Margulis discloses a broadcasting service system using a mobile communication terminal as stated above comprising an analog broadcasting reception means which receives an analog television broadcasting system as stated above. Further disclosed is a digital converting means which converts the analog broadcasting signal received by the analog broadcasting reception means into a digital signal as stated above. An encoding-converting mean is disclosed which converts the digital broadcasting signal converted by the digital converting means into a signal agreed with the mobile communication network and an allotting-transmitting means is disclosed which allots the converted digital broadcast signal by the encoding-converting means on the certain transmission channel of the network and transmits it as is stated above. Margulis in view of Cerna disclose a system wherein an encoding rate of the video signals and a transmission rate of the mobile communication network are varied in accordance with a voice telephone call quantity information as stated above in Claim 15.

Regarding Claim 30, Margulis in view of Cerna disclose a system as stated above in Claim 29. Margulis further discloses that the system includes an EPG signal and additional information abstracting means for abstracting the EPG signal and additional information and an encoding-converting means for converting the EPG signal and additional information into a signal agreeing with the mobile network as stated above.

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8. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Margulis in view of Cerna et al. and further in view of Legall et al.

Regarding Claim 26, Margulis discloses a broadcasting service method using a mobile communication terminal as stated above comprising transmitting a TV broadcast signal having multiplexed EPG data to a subscriber through a mobile network as stated above. It is inherent in such systems that the EPG data may be transparently pushed to the subscriber's terminal or downloaded upon request. Further, it is well known in the art that a channel may be selected by searching EPG data. Margulis also discloses converting the A/V data of a selected channel into the data agreed with the standard of the mobile network and transmitting the data through the channel of the network as stated above. Margulis in view of Cerna disclose a system wherein an encoding rate of the video signals and a transmission rate of the mobile communication network are varied in accordance with a voice telephone call quantity information as stated above in Claim 15. Further disclosed is a receiving-decoding unit which receives and decodes the EPG signal from the video as stated above.

What is not disclosed, however, is a transmitting unit which transmits a subscriber search answer of the decoded EPG signal to a broadcast service system. Legall discloses an EPG system (See Figure 2) where a user is able to search the EPG and other sources of information (Col. 2, Lines 60-66) by issuing a search request to a search engine, which interacts with external information resources such as the Internet or broadcasts (Col. 3, Lines 11-16). Further the system is operable to "offload" the handling of a search to the content provider so

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the receiving user's system does not have to perform the search (Col. 5, Lines 44-46). This reads on the claimed transmitting unit which transmits a subscriber search answer of the decoded EPG signal to a broadcast service system. Legall is evidence that ordinary workers in the art would appreciate the ability to search an EPG. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Margulis in view of Cerna with the EPG searching of Legall in order to allow a user to quickly locate information of interest.

9. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margulis in view of Cerna and further in view of Legall et al. and still further in view of Peters et al.

Regarding Claims 27 and 28, Margulis in view of Cerna and further in view of Legall disclose a method as stated above in Claim 26. What is not disclosed, however, is a system wherein a right for watching the digital broadcast is granted to a subscriber and the EPG information is provided to the subscriber after confirming and certifying the right. Peters discloses a video telephone system (See Figure 2) with a video server (Col. 2, Lines 32-34). The users of the video telephone must insert a chip-card into the video telephone, thereby identifying themselves to the device (Col. 4, Lines 1-12). A subsequent charge is issued for the purchase (Col. 4, Line 14-16). This reads on the claimed right for watching the digital broadcast is granted to the subscriber. If the user does not authenticate, the video telephone unit remains locked (Col. 4, Line 4). This reads

on the claimed providing information to the subscriber after confirming and certifying the right. Peters is evidence that ordinary workers in the art would appreciate the ability to restrict access to content based on subscriber identification and payment in a wireless television system. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Margulis in view of Cerna and further in view of Legall with the identification, payment and privileges of Peters in order to prevent unauthorized access to certain content in a video telephone system.

10. Claims 31-35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margulis in view of Cerna et al. and further in view of Tracton et al.

Regarding Claim 31, Margulis in view of Cerna disclose a system as stated above in Claim 29. What is not disclosed, however, is the use of the MPEG4 format. Tracton discloses a system wherein data sent to the mobile communication network is in the MPEG 4 format (Col. 4, Lines 45-49). Tracton is evidence that ordinary workers in the art would recognize the benefits of using the low bit-rate MPEG4 format in a limited bandwidth network. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Margulis in view of Cerna with the MPEG4 format of Tracton in order to further conserve bandwidth.

Regarding Claim 32, Margulis discloses a mobile communication subscriber terminal as stated above comprising a TV broadcasting reception means (See Figure 7, 724) that receives a broadcasting signal that includes motion

picture information as stated above. Further disclosed is a decoding means (732), which restores the received broadcast signal by the broadcasting reception means. An outputting means is disclosed (212) which outputs the restored broadcast signal by the decoding means for being watched on the mobile communication terminal. A selecting means (See Figure 3, 312) is disclosed for selecting the broadcasting signal reception mode. Margulis further discloses EPG data being formatted and multiplexed together with the transmitted video and audio signals and additional information as stated above in Claim 1. Further, Margulis in view of Cerna disclose a system wherein the bit-rate of the transmission is varied in accordance with a telephone call quantity information and a transmission rate of a mobile network as stated above. It is inherent that the mobile terminal receive and decode the signal at the rate which it is broadcast.

What is not disclosed, however, is a communication processing means that receives a call signal provided to the mobile communication network and restore-outputs the call signal, and coding-outputs a subscriber call signal through the mobile communication network. Tracton discloses a mobile A/V reception device as stated above that may be incorporated into a cellular phone (Col. 7, Lines 26-28). It is inherent in such phones that there be a communication processing means as claimed above. Further, in a cellular phone enabled with mobile video reception, a selection means for selecting broadcast signal mode or mobile communication telephone call mode is inherent. Tracton is evidence that ordinary workers in the art would recognize the benefits of using a cellular phone platform in a mobile communication subscriber terminal with video reception. Therefore, it

would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Margulis in view of Cerna with the communication processing means and selection means of Tracton in order to provide phone service as part of the mobile communication subscriber terminal.

Regarding Claim 33, Margulis in view of Cerna and further in view of Tracton disclose a system as stated above in Claim 32. Margulis further discloses a system wherein the broadcast reception unit includes an antenna (720) and a tuner (724), the decoder includes a demodulation unit (732) for demodulating video and audio signals of an analog television broadcasting signal selected from the tuner and output unit includes a speaker (770) for outputting the demodulated audio signal and the mobile communication terminal (212) for displaying the demodulated video signal when the broadcast signal is an analog television broadcast signal.

Regarding Claim 34, Margulis in view of Cerna and further in view of Tracton disclose a system as stated above in Claim 32. Margulis further discloses a terminal wherein the broadcasting reception unit includes a bit stream reception unit (720) for receiving a bit stream from a terminal antenna and a digital broadcast signal, the decoder (732) includes a demodulation and restoring unit (724) for demodulating video and audio signals of the digital broadcast signal and restoring the demodulated video and audio signals, and the outputting unit (770) includes a speaker for outputting the restored audio signal on a monitor (212) for displaying the restored video signal on the mobile communication terminal when the broadcast signal is the digital broadcast signal.

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Regarding Claim 35, Margulis in view of Cerna and further in view of Tracton disclose a system as stated above in Claim 32. Tracton further discloses that the mobile communication subscriber terminal is a cellular phone as stated above.

Regarding Claim 39, Margulis in view of Cerna and further in view of Tracton disclose a system as stated above in Claim 19. Cerna further discloses that the controlling unit varies the encoding rate of the video signals in accordance with the telephone quantity information at a base station so that the video signals do not take all available bandwidth as stated above in Claim 38.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 6,014,694 to Aharoni et al. discloses a system for variably compressing video streams for transport over a network where bandwidth varies with time by reducing resolution, frame rate and frame quality.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew R Demicco whose telephone number is (703) 305-8155. The examiner can normally be reached on Mon-Fri, 9am - 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (703) 305-4755. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MRD

mrd
November 3, 2004

Chris Grant
CHRIS GRANT
PRIMARY EXAMINER